

# TRANSFERRIN

## What is Transferrin?

Transferrin (siderophilin) is the principal iron binding and transport protein in human plasma and can bind two molecules of iron. The normal range for healthy adults is 200-400 mg/dl. Iron availability in the plasma regulates transferrin levels which increase when plasma iron is low.

## Clinical Significance

Transferrin levels increase during pregnancy and oestrogen administration and correlate closely with Total Iron Binding Capacity of serum. Plasma transferrin levels are associated with a range of conditions including anaemia, iron deficiency, inflammation or malignancy, liver disease, malnutrition and protein loss.

## How is Transferrin measured?

Randox manufactures an immunoturbidimetric assay for the determination of transferrin. Transferrin in the test sample reacts with a monospecific antibody for human transferrin. The absorbance of the resulting turbid solution is proportional to the concentration of transferrin in the sample. Reagents are liquid stable for 2 years and the method is suitable for serum, heparinised plasma, and EDTA plasma.

### High Performance Reagents

**Wide measuring range** - 7.6-540 mg/dl. (depending on the lot specific value of calibrator in use).

**Excellent Precision** - The following coefficients of variation were obtained for transferrin levels using an **IXdaytona™** analyser.

	Transferrin Mean (mg/dl)	Mean %CV	n
Intra-assay precision	102.6	2.82	20
	228.6	3.55	20
	341.4	4.84	20
Inter-assay precision	108.6	4.79	20
	231.3	3.72	20
	347.5	3.31	20

### Strong correlation with standard methods -

A correlation coefficient of 0.99 was obtained with an alternate commercially available method utilising a BCR/CAP/IFCC CRM 470 international standard.

**Interference** - The following concentrations of interfering substances were not found to affect the assay.

Free Bilirubin	25 mg/dl
Haemoglobin	1000 mg/dl
Intralipid®	1.2%
Triglycerides	250 mg/dl
Conjugated Bilirubin	25 mg/dl

**Antigen Excess** (Prozone) - effects are not detected in this assay until transferrin levels approach 1500 mg/dl.

**Recovery** - The assay exhibits a mean recovery of 98% across the measuring range.

**Completely Automated Protocols** - are available for a range of clinical chemistry analysers.

Product Description	Size	Cat. No.
Transferrin	R1 3x50 ml	TF2453
(sample dilution only)	R2 2x8 ml	
Transferrin	R1 6x20 ml	TF7197
	R2 2x15 ml	
<b>IXdaytona™</b> Dedicated	6x20 ml	TF3831
	3x14 ml	
Dimension® Dedicated	4x40 T	TF2865
Specific Protein Calibrator	3x1 ml	IT2692
(suitable for TF2453)		
Specific Protein Calibrator	3x1 ml	IT2691
(suitable for TF7197 & TF3831)		
Specific Protein Controls		
Level 1	3x1 ml	PS2682
Level 2	3x1 ml	PS2683
Level 3	3x1 ml	PS2684